IN THE CLAIMS:

Please AMEND claims 1-10 and 12 and ADD new claims 13-16 in accordance with the following:

1. (CURRENTLY AMENDED) An interleaving method for use in ~~used for~~ a low density parity check (LDPC) encoding process employed by a network including a communication channel across which data is transmitted and/or in a recording/reproducing apparatus when information is stored on a recording medium, the method comprising:

generating more than one code word vector by generating parity information ~~on the~~ based ~~is of~~on a parity check matrix;

dividing the generated code word vector into interleaving units, each interleaving unit having a size that is based on~~determined on the basis of~~ bit lengths between 1s included in a row of the parity check matrix; and

interleaving the more than one code word vector using the differently sized interleaving units.

2. (CURRENTLY AMENDED) The method of claim 1, wherein the dividing of the generated code word vector into the interleaving units comprises:

extracting a maximum range bit length including only one 1~~s~~ among all 1s included in the row of the parity check matrix; and

determining the size of the interleaving units ~~on the basis of~~based on the extracted bit lengths.

3. (CURRENTLY AMENDED) The method of claim 2, wherein the determining of the size of the interleaving units comprises: determining an average value of the extracted bit lengths as the sizes of each of the interleaving units.

4. (CURRENTLY AMENDED) The method of claim 2, wherein the determining of the size of the interleaving units comprises: determining a minimum value of the extracted bit lengths as the sizes of each of the interleaving units.

5. (CURRENTLY AMENDED) The method of claim 1, wherein the dividing the generated code word vector into interleaving units comprises:

extracting bit lengths between all 1s existing in the row of the parity check matrix;

calculating an average value of the extracted bit lengths; and

determining a bit length corresponding to double the length of the calculated average value of the extracted bit lengths as the sizes of each of the interleaving units.

6.   (CURRENTLY AMENDED) The method of claim 1, wherein the dividing of the generated code word vector into the interleaving units comprises:

determining the sizes of each of the interleaving units on the basis ofbased on the length of the code word vector and the row weight of the parity check matrix; and

dividing the code word vector into the interleaving units having the determined sizes.

7.   (CURRENTLY AMENDED) The method of claim 6, wherein the determining of the size of the interleaving units comprises: determining a smaller value than a value corresponding to double the value divided-of the length of the code word vector by the row weight as the sizes of each of the interleaving units.

8.   (CURRENTLY AMENDED) A method of determining the-a size of an interleaving unit in an low density parity check (LDPC)LDPC encoding process employed by a network including a communication channel across which data is transmitted and/or in a recording/reproducing apparatus when information is stored on a recording medium, the method comprising:

extracting valid code word bits which represents corde word bits corresponding to 1s in a row of a parity check matrix in a code word vector;

extracting bit lengths between the valid code word bits in the code word vector; and

determining the size of the interleaving unit on the basis ofbased on the bit lengths between the valid code word bits.

9.   (CURRENTLY AMENDED) The method of claim 8, wherein the determining of the size of the interleaving unit comprises: determining a smaller value than double the minimum value of the bit lengths between the valid code word bits as the size of the interleaving unit.

10.   (CURRENTLY AMENDED) The method of claim 8, wherein the determining of the size of the interleaving unit comprises: determining a smaller value than double the average value of the bit lengths between the valid code word bits as the size of the interleaving unit.

11.   (ORIGINAL) The method of claim 10, wherein the average value of the bit lengths between the valid code word bits is a value obtained by dividing the length of the code word vector by the row weight of the parity check matrix.

12.   (CURRENTLY AMENDED) The method of claim 8, wherein the determining of the size of the interleaving unit comprises: determining the size of the interleaving unit so that 1<BI<2n/Wr, where BI indicates the size of the interleaving unit, n indicates the length of the code word vector, and Wr indicates the row weight of the parity check matrix.

13.   (NEW) An interleaving method for use in a low density parity check (LDPC) encoding process employed by a network including a communication channel across which data is transmitted and/or in a recording/reproducing apparatus when information is stored on a recording medium, the method comprising:

generating more than one code word vector by generating parity information based on a structure of a parity check matrix corresponding to the code word vector;

dividing the generated code word vector into interleaving units by extracting bit lengths between all 1s existing in the row of the parity check matrix, calculating an average value of the extracted bit lengths, and setting a bit length of each of the interleaving units to be 1<BI<2n/Wr, where BI indicates the size of the interleaving unit, n indicates the length of the code word vector, and Wr indicates a row weight of the parity check matrix; and

interleaving the more than one code word vector using the interleaving units at the set bit lengths.

14.   (NEW) The method according to claim 13, wherein a difference between BI and 2n/Wr decreases as a distribution uniformity of 1s included in the parity check matrix increases and as a density of 1s in the parity check matrix decreases.

15.   (NEW) A method of determining a size of an interleaving unit in a low density parity check (LDPC) encoding process employed by a network including a communication channel across which data is transmitted and/or in a recording/reproducing apparatus when information is stored on a recording medium, the method comprising:

extracting valid code word bits which represent cord word bits corresponding to a number of 1s in a row of a parity check matrix in a code word vector;

extracting bit lengths between the valid code word bits in the code word vector; and

optimally setting the size of the interleaving unit to be $1<BI<2n/Wr$, where BI indicates the size of the interleaving unit, n indicates the length of the code word vector, and Wr indicates a row weight of the parity check matrix.

16.   (NEW) The method according to claim 13, wherein a difference between BI and $2n/Wr$ decreases as a distribution uniformity of 1s included in the parity check matrix increases and as a density of 1s in the parity check matrix decreases.